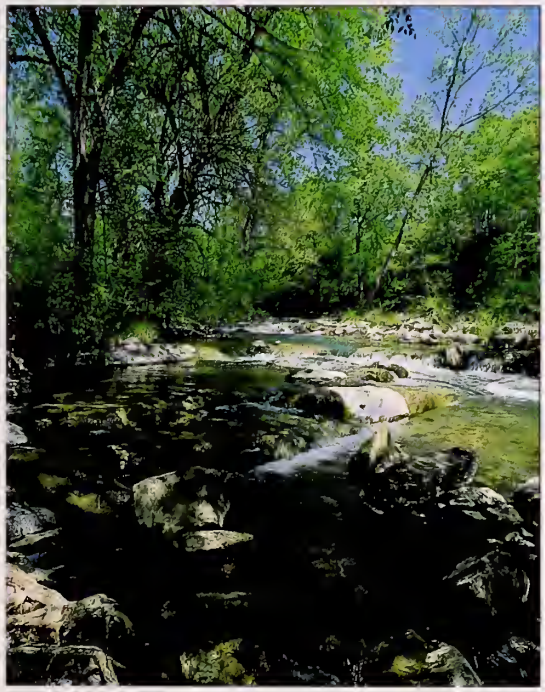
VIRGINIA WILDLIFE

APRIL 1994 ONE DOLLAR

Cover: The American kestrel is one hawk you'll get to know if you take up hawk watching at lunch. See page 27 for details; photo by Maslowski.

VIRGINIA WILDLIFE



The Shenandoah River is a great river to float-fish. Turn to page 15 for a pull-out map and all the details you'll need to plan your trip this season; photo by Dwight Dyke.

*The wood duck (**opposite**) is one of many species of wildlife which are affected by environmental contaminants and susceptible to viral and bacterial disease outbreaks. VDGIF has established a program to monitor, suppress, and prevent such problems from reoccurring. See page 8 for details; photo by Rob Simpson.*

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Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

VOLUME 55 NUMBER 4

Spring Striper

illustration by Michael Simon

Want to know the secret to hooking landlocked striped bass this spring? Well, Almy has spilled the beans. Read on.

by Gerald Almy

Arching a cast into the clear green waters of Smith Mountain Lake, Dale Wilson paused while the white bucktail sank briefly, then cranked his reel and began a slow, steady retrieve. Before the jig was halfway back across the submerged point, a sharp take telegraphed up the rod. Leaning back hard, the veteran guide set the hook into a fish.

The drag slipped as the unseen quarry stripped line in a hard run, then bucked and shook beneath the boat. Finally the pressure from the rod and 17-pound line was too much and a sleek, 14-pound striper surfaced and slipped into the outstretched net. Two more striped bass—9 and 11 pounders—fell for our jigs before we left that spot and zipped across the feeder creek to a different point to resume fishing. On the second cast, another striper

Fishing in the spring for striped bass in Virginia's lakes requires some strategy and knowledge of the habits of the fish.

nailed my jig and set off on a sizzling run.

By the time the three-hour fishing session ended, 11 stripers had been caught, and all but two released unharmed. It had been a good afternoon's fishing, but thanks to the tremendous success of Virginia's striper program, it was not an unusual one. Smith Mountain Lake, east of Roanoke, is one of the state's premier striped bass fisheries and regularly produces over 100 citation catches each year (134 in 1993). But other lakes such as Anna, Gaston, Claytor, Buggs Island, Prince and Leesville also offer high-quality fishing for this transplant from the sea, and there's no better time to try for them than now.

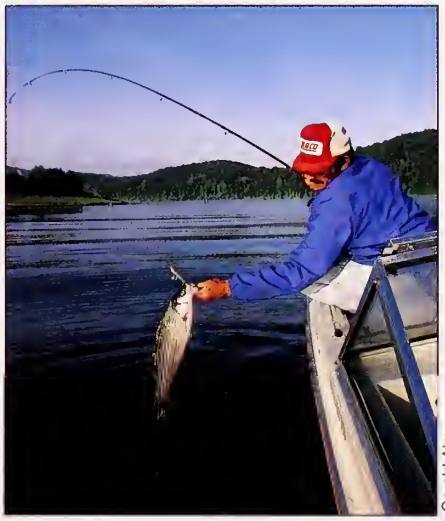
Virginia is fortunate to have one of the few naturally reproducing populations of stripers in the country in Buggs Island Lake. These fish swim up the Dan and Roanoke (Staunton) each year in April and May and both rivers have just the right current speed, sediment content and length to allow natural regeneration of the species. Equally important, they provide a viable source of breeding fish for the state's sophisticated hatchery operation at Brookneal. The young stripers reared there are used to stock many lakes in Virginia and are also traded to other states to help with their fishery programs.

The result is a bountiful population of landlocked striped bass throughout the Old Dominion. But if you're used to fishing mostly for bass and panfish, it's important to realize that slightly different tactics are required to catch this transplant from the sea. I've been a striper fan for 20 years now, ever since I started fishing the state's big inland lakes for these members of the true bass family. Through years of experimenting on my own and fishing with guides such as Dale Wilson, Bill Mathias, Jim Abers and others, several methods have proved consistently reliable.

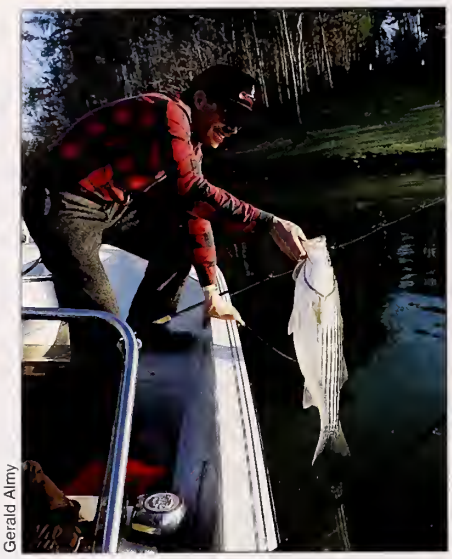
The tactic described earlier of casting and retrieving light bucktail jigs is one of the best you can use on any striper lake in Virginia. Bucktail jigs are subtle lures, but their slinking-slipping motion closely resembles the movements of shad—the striper's major forage. The name "jig" sometimes misleads novices into thinking they should jerk or pump their rod as they retrieve these lures. You can occasionally catch a striper this way, but the best presentation is smooth and steady. Cast out, allow the jig to sink anywhere from a foot to just off the bottom, then slowly reel in the offering. This slinking motion drives stripers mad and thumping takes are the norm. When a fish does strike, reel hard immediately to pull the jig taut, then lean back with the rod to drive the barb home.

The depth at which you should work the jig depends on where the stripers are holding. They may suspend at just about any depth, depending on water temperature and the location of the baitfish schools. If you see fish slashing and swirling periodically, chances are a shallow retrieve will work best. If no surface activity is evident, try medium and then deep retrieves, counting down after the cast to cover various depths.

Top areas to fish bucktails are points, underwater humps, mud flats near deep water, bridge pilings and channel edge dropoffs. Jigs can work all day, but the first and last

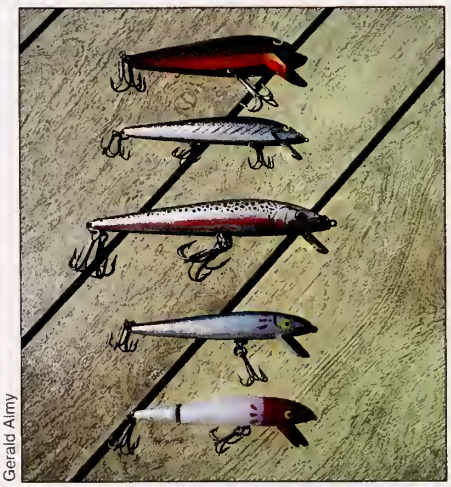


Gerald Almy



Gerald Almy

Gerald Almy



Gerald Almy

*Casting and retrieving light bucktail jigs is one of the best tactics you can use on any striper lake in Virginia.Trolling with a deep diving plug and jig combination (**middle**) is also a good bet, and for nighttime fishing, deep-diving and floating (**above**) minnow plugs bring results.*

few hours of daylight, as well as after dark, are the prime periods to fish these lures in spring.

Sizes from ¼-½-ounce are best, either all white or white with an unpainted lead head. A saddle hackle in green, blue, red or yellow tied along the flanks can be helpful. You can also add a curly plastic or pork rind trailer, especially if the water is murky or muddy. In clear water, the plain jig is often best.

If strikes don't come on a steady retrieve, try pausing briefly for 3-6 seconds after reeling the lure halfway back. The jig drops like a wounded shad that's suddenly run out of steam. Strikes as it falls or just after you resume the retrieve are common.

One of the main advantages of this technique is that it allows you to cover lots of water quickly. This is important, because unlike bass and most other freshwater gamefish, stripers move often in search of roving schools of shad. Experts with this method usually don't spend more than 10 minutes at any one location unless they are into fish. But be sure to shut down the outboard well back from each area you want to probe and move up to it slowly with the trolling motor or you'll spook the quarry before you even get started. One final tip: Don't cast tight to the shore or point, but rather 10-30 feet out. Stripers rarely hang right on the bank.

After stripers move back down out of the Dan and Roanoke Rivers in late spring, one of the favorite fishing methods on Buggs Island Lake is trolling. I've had good luck here and on Gaston and Leesville with this method. Some people think trolling is a lazy, boring way to fish. It needn't be. If you troll for stripers intelligently, you are constantly studying your topographic map, watching the sonar for bottom depth, contour changes, signs of bait and game fish, as well as steering a precise course designed to intercept the quarry. You'll have to adjust the length of line out and change lures from time to time and always be watching for signs of skipping shad or surface commotion that could tip you off to the stripers' location.

Trolling allows you to keep your lure constantly in the most productive payoff depth for spring and summer fishing—15-45 feet. Downriggers can be used and team up well with lures such as thin minnow plugs, shad-shaped crankbaits, jigs and vibrators.

If you don't want to fool with downriggers, a good option is to troll with a deep diving plug and jig combination. Tie a 2-3 foot 20-pound leader to the center hook of the front treble on a big-lipped diving lure such as the Heddon Hellbender, Storm Big Mac or Bomber Water Dog, then attach a ¼-ounce jig to this. The plug takes the jig down into the strike zone and acts as an attractor, but typically the smaller lure draws the strikes.

Top areas to troll include submerged islands, bridge abutments, deep points, contour lines in the 15-30-foot depth range, underwater humps, saddles and the edges of river and creek channels. Troll slowly and occasionally make lazy-S turns in your boat path to give the lure a rising and falling action.

Some of the most intriguing striper fishing of all comes at night, and this is a particularly popular time to go after impoundment fish. As you cast and retrieve lures in the inky darkness and whip-poor-wills sing from shoreline trees, the tactile and auditory senses come to the forefront. Instead of seeing where your plug lands, you listen for the splash as it hits down and thus judge whether you've delivered it close enough to shore. And that's exactly where you want the lure to land at night—within a few feet of the bank. While they often roam in deep offshore waters during the day, at night stripers follow shad into coves, feeder arms and fingers off the main lake, herding them into the shallows on wild feeding binges.

Three lures are standouts for this nighttime fishing—vibrators, floating minnow plugs, and deep-diving minnow plugs. The ½-ounce Cordell Spot in silver with a blue or black back is the most popular vibrator or lipless crankbait for night fishing in Virginia. Other models include the Rat-L-Trap, Sugar Shad

Gerald Almy

Dwight Dyke

Check with local marinas, tackle stores, or bait shops to find out the current location of stripers. These fish are notorious for moving great distances and feeding in different areas from week to week and even from day to day. These fish are abundant in Virginia, but preparation is needed to make your trip a success.

and Rattl'n Rap. These lures are particularly good after a cold front has passed through or when the fish are not feeding aggressively. Cast them to shore or over points and flats and reel them back slowly. Let the lure sink occasionally by pausing during your retrieve and you'll double the number of strikes you get.

The first time I ever tried these lures on Smith Mountain Lake years ago, this was the only way we could draw action. A steady retrieve was ignored, but when we reeled back about halfway then let the Spots free-fall, stripers walloped them. We took 12 fish that night, and 10 came during pauses in the retrieve.

Deep-diving minnow plugs such as the diving Redfin, Rebel Spoonbill or deep Bomber Long A are also useful for fish that are hanging in the depths. They present a good minnow silhouette and give off lots of vibration as they shimmy along at 10-14 foot levels. Work these with a steady cranking retrieve.

The third type of lure to fish after dark is the shallow-diving long minnow plug such as the Cordell Redfin, Storm Thunderstick, Hellcat, Bomber Long A and Rebel Windcheater. These should be in the 5 to 7-inch class, in chrome with a black, blue or chartreuse back. These lures dive about a foot or so when cranked steadily. They'll catch a fish or two that way, but the best method is to crawl them in slowly so they stay on the surface and create a V-wake as you reel. This quivering action as they wiggle slowly on top duplicates the vibrations of a wounded shad precisely and incites pounding strikes from stripers.

A fish may not hook itself the first time it crashes into this type of lure. If it misses, maintain your composure and simply keep reeling slowly. Odds are good that the striper will return and take again if it's not too close to the boat.

All of these tactics above should help you score on late spring stripers. But one final piece of advice is important. Be sure to check with local contacts such as marinas, tackle stores or bait shops before heading out to find the current location of the stripers. These true bass are notorious for moving great distances and feeding in different areas from week to week and sometimes even day to day. If you buy a topo map and get a current report on where fish have been caught, you'll be way ahead of the angler who just forges out blindly on a 10,000 or 20,000-acre lake hoping to catch a striper. These fish *are* abundant on many of Virginia's lakes, but they use specific areas at different times and getting a bead on where they are before trying the techniques outlined above will go a long way toward a successful outing. □

Gerald Almy has been a full-time outdoor writer for over 17 years. He is currently a hunting and fishing editor on the staff of Sports Afield.

Lee Walker

Dead Birds Do Tell Tales

With its Wildlife Disease Incident Monitoring Program, VDGIF is recording and solving the mysteries of sudden wildlife deaths throughout the state in an effort to prevent them from happening again.

by Betsy Stinson

Lee Walker

Assistant Biologist Mark Frank received the phone call at 3:00 on a hot July afternoon: "Hello? I hope you can help me, I've got some kind of problem here…My neighbor and I have found at least eight dead mourning doves in our yards since last week. There may be more, I'm not sure…"

So began the Virginia Department of Game and Inland Fisheries (VDGIF) wildlife disease case #26-92.

Most VDGIF wildlife biologists

and wardens encounter this type of call from concerned citizens several times a year, and work to determine the cause of injury or death, and to protect wildlife populations that may be at risk. These activities are all part of VDGIF's Wildlife Disease Incident Monitoring Project, which is concerned with viral, bacterial, and parasitic infections as well as injury resulting from wildlife exposure to environmental contaminants like pesticides, heavy metals, or oil.

When biologists or game wardens receive a call like the one above, they first try to collect as much information as possible over the telephone: "When did you first notice the dead animals?" "What species are involved in the incident?" "How did they behave before they died?" Based on this interview, biologists form some idea of what action to take.

Spike Knuth

Lee Walker

*Wildlife diseases like avian cholera (**above**), poisoning (**opposite below**) and diseases at birdfeeders are investigated by VDGIF wildlife biologists (**opposite**), and specimens (**above right**) are submitted to trained wildlife veterinarians for diagnosis as part of VDGIF's Wildlife Disease Incident Monitoring Project.*

Frequently, a visit to the site is in order. There, biologists work to expand the case history information gathered over the telephone. "What is the condition of the habitat?" "Has anything unusual happened in the area recently?"

Obviously, one of the most important steps in a wildlife disease investigation is the collection of wildlife specimens to submit for analysis. The Department is fortunate to have access to two excellent facilities specializing in wildlife disease. The Southeastern Cooperative Wildlife Disease Study (SCWDS) is based at the University of Georgia and has been conducting research in wildlife diseases and providing assistance to fish and wildlife agencies since 1957. The National Wildlife Health Research Center (NWHRC), operated by the U. S. Fish and Wildlife Service, has been another valuable partner to VDGIF, providing expertise in wildlife diseases, particularly those of waterfowl and endangered species. Experts at both facilities examine wildlife specimens sent to them to determine the cause of death.

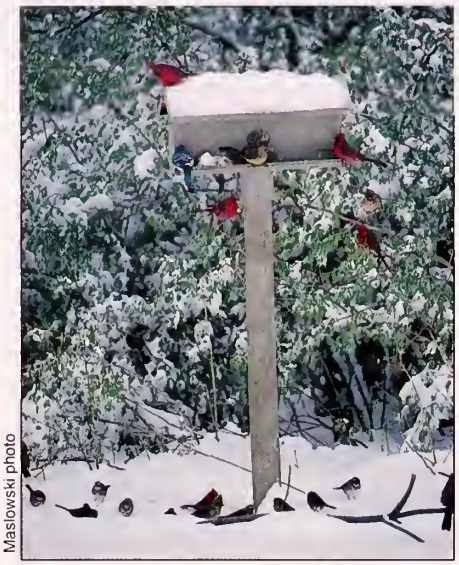
Once we have a preliminary diagnosis of what type of disease problem we are dealing with, we begin work to control it. In many cases, solutions are relatively simple. For example, in the case of the dead mourning doves mentioned, it was just a matter of getting the homeowners to clean and disinfect their bird feeders and birdbaths on a regular basis. The cause of the doves' deaths was a parasite called *Trichomonas gallinae*, which can sometimes become a problem where feeders and birdbaths are heavily used.

In other cases, solutions are not at all simple and require a great deal of planning and effort by VDGIF staff, as well as cooperation with other state and federal agencies. In the last several years, for instance, Virginia has experienced outbreaks of duck virus enteritis (DVE), a viral disease that affects only waterfowl. Rapid and thorough response to control this disease is extremely important to reduce the risk of the disease being transmitted to healthy wild waterfowl. This has been achieved through close cooperation with the Virginia Department of Agriculture (VDACS), local Animal Control Officers, and local and county parks staff.

The Wildlife Disease Incident Monitoring Project also documents and monitors trends in wildlife disease. A computer database on disease incidents stores information about individual cases, including the location of wildlife disease incidents, type of disease, and number and species of wildlife affected.

This information is shared with other state and federal agencies when we are alerted to potential problems. For example, our records showed that the insecticide carbofuran was repeatedly implicated in cases of wildlife poisoning in Virginia, particularly in poisoning cases involving bald eagles. This information was used by VDACS and the Virginia Pesticide Control Board to guide policy and research regarding the use of granular carbofuran.

Certain patterns have emerged with our disease incident monitoring. For example, most wildlife disease incidents are reported during spring and summer. Of course, more



Maslowski photo

Black duck concentration; photo by Karl H. Maslowski

Waterfowl will concentrate in abnormally high numbers on urban and suburban ponds and lakes when they are fed by well-meaning citizens. These close quarters in often marginal habitat (as well as competition for handouts) typically stress the animals, making them more susceptible to diseases like avian cholera, DVE, and avian botulism that have the potential to kill off large numbers of these birds.

people are active outdoors during the warmer months, so the chances of observing wildlife are greater. Also, certain bird species are more visible during migration and breeding, and warmer weather may provide favorable conditions for certain bacteria and parasites which can be harmful to wildlife. Pesticide use also increases during this period, and wildlife are more likely to come into contact with these compounds.

Our data also show that we are more likely to receive reports of sick or dead wildlife from more populated regions. This may be partly because there are simply more people to observe wildlife in these places. However, we do find that certain activities in densely populated areas sometimes lend themselves to promoting disease outbreaks.

For example, wild waterfowl will concentrate in abnormally high numbers on urban and suburban ponds and lakes when they are fed by well-meaning citizens. These close quarters typically stress the animals, making them more susceptible to diseases like avian cholera, DVE, and avian botulism.

We have documented a variety of wildlife diseases at one time or another, but certain diseases turn up more frequently than others. From 1990 through 1992, rabies, pesticide poisoning, duck virus enteritis, botulism, and diseases related to con-

centrations of birds at feeders and birdbaths accounted for most of the wildlife deaths that were reported by the public.

Some patterns of the data do indicate that incident monitoring has its limitations. Not surprisingly, most reports of sick or dead wildlife are found in "human habitat," like lawns, parks, and roadsides. We receive fewer reports of animals observed in more remote areas such as woodlots or agricultural fields. Do sick wildlife rarely occur in these areas or are people just not out there to see them?

We also tend to get a disproportionate number of reports involving very large or unusual birds like raptors or waterfowl, or reports of relatively large numbers (10 or more) of songbird-sized birds found dead. We usually don't get reports of small numbers of songbirds found dead. Do these kills not occur? Or do they just go unseen or unreported?

We had an opportunity to shed a little light on these questions during a project in which we monitored relatively "remote" areas, in this case agricultural fields treated with carbofuran. After the insecticide was applied, we searched portions of the fields for evidence of poisoned wildlife.

One of the things that the carbofuran study revealed was that small numbers of small birds did become poisoned after being exposed to the pesticide. Although the number of birds we found on any one field was low, the total number of dead birds found on the fields we searched was relatively high. In one month's time, we found 61 dead birds, 10 birds that were alive but unable to move or fly, and 46 feather spots where dead or sick birds had been evidently devoured by other animals. Whereas carbofuran poisoning incidents reported by the public involved either highly visible large birds or many small birds, our systematic searches turned up many cases of small numbers of poisoned birds that likely never would have been found without such intensive effort.

This supports what we intuitively suspect about wildlife disease incident monitoring—that documented disease incidents might just be the "tip of the iceberg." It also shows that if a disease problem turns up repeatedly with incident reports from the public, it might be worth taking a closer look. The information obtained from the project helps us identify where we should focus our efforts to best protect wildlife.

But, the issues and events that arise from incident monitoring are at times controversial. People have strong opinions on issues like the changing of pesticide use patterns to protect wildlife or the euthanasia of diseased wildlife to protect healthy animals. But, as biologists our goal is to maintain healthy wildlife populations, and the popular opinion or the easy way out may not be in the best interests of our fish and wildlife.

You *can* help. Sportsmen, landowners, and other citizens can help wildlife biologists monitoring disease outbreaks by promptly reporting observations of sick wildlife or unusual wildlife mortality. Reports should be made to the Department of Game and Inland Fisheries in Richmond by phoning (804) 367-1000 or by contacting a VDGIF wildlife biologist or game warden.

Rob and Melissa Simpson

Rabies

In Virginia, raccoons are the wildlife species most frequently infected with rabies, followed by skunks, foxes, and bats. Rabies is caused by a virus that can be transmitted by the bite of an infected animal. All mammals, including humans, are susceptible to the disease.

Most cases of rabies in humans result from exposure to infected dogs and cats, so regular rabies vaccination of dogs and cats is critical!

Above all, avoid contact with animals displaying any abnormal behavior, such as unprovoked viciousness, tremors, or convulsions, and contact your local health department immediately.

Lynda Richardson

Lynda Richardson

*Pay attention to what pesticides you use! The chemical carbofuran ("Furadan") was banned in granular form in Virginia after VDGIF research revealed its deadly effects on wildlife, particularly bald eagles (**above**). A single granule (**top**) can kill a bird. Other products such as diazinon (available as "Spectracide") are particularly dangerous to wildlife when used on residential lawns and gardens. **Above left**: Raccoons are the leading wildlife species carrying the rabies virus in Virginia. All mammals, including humans, are susceptible to the disease.*

Pesticide Poisoning

Carbofuran and *diazinon* accounted for over half of the wildlife pesticide poisoning cases VDGIF documented from 1985-1993. Carbofuran (sold as "Furadan") is used on crops in both a granule and a liquid form. Birds killed by this extremely poisonous insecticide have included bald eagles, red-tailed hawks, American goldfinches, Eastern bluebirds, and red-winged blackbirds.

The Virginia Pesticide Control Board, aided by the research and support of VDGIF, banned use of the granular form of carbofuran in 1991 because of its harmful effects on wildlife, and there has been a sharp drop in the number of documented wildlife poisonings caused by the pesticide since then. The U.S. Environmental Protection Agency also announced a multi-year phase out of granular carbofuran. However, the product is still exported to other countries and the liquid form of the product is still sold and used in Virginia.

Diazinon (sold as "Diazinon" and "Spectracide") is used on both agricultural crops and on residential lawns, trees, and gardens. Waterfowl and American robins are the species most often poisoned by this insecticide in Virginia, and *all* documented cases have been attributed to its use in urban and suburban environments.

Diazinon was banned for use on sod farms and golf courses in the late 1980's due to repeated poisoning of wildlife, primarily waterfowl. However, it can be used on residential lawns and gardens. Often, when we confirm that a bird die-off was caused by diazinon use in a person's yard, the person is surprised and upset to learn that an insecticide which has repeatedly poisoned birds and other wildlife is available to the general public.

Maslowski photo

Avoid using highly toxic insecticides like diazinon, particularly on lawns. Our experience has shown that waterfowl and songbirds feeding on lawns treated with it are at risk of becoming poisoned even when the product is used according to label directions.

If you use pesticides, use alternative products which are not as potentially harmful to wildlife, and strictly follow label directions.

Duck virus enteritis (DVE)

DVE is caused by a virus that is similar to the ones that cause cold sores in humans. Only ducks, geese, and swans are susceptible to DVE. When waterfowl carrying the virus are stressed, they may develop sores under their tongues, in their throats, and in their intestines. As infected ducks feed or defecate, the virus is shed from the sores, and other waterfowl feeding in the same water can then pick it up and become infected themselves.

Once a bird develops sores, it usually dies within three days. Infected waterfowl experience internal bleeding, loss of equilibrium, and convulsions. They may become lethargic and unable to fly.

Unfortunately, because DVE is incurable and spreads so quickly, the only way to stop the spread of the disease is to euthanize all the waterfowl in the infected flock. The virus is hardy and can survive in water and soil for several weeks, so the surrounding water and area also must be decontaminated as thoroughly as possible.

To help prevent outbreaks of DVE, avoid feeding local waterfowl. Wild waterfowl don't need to be fed by humans to survive and feeding them can create the crowded, stressful conditions that trigger DVE.

"Dumped" ducks also can be a factor in DVE outbreaks, so *do not* release domestic waterfowl on park and residential ponds.

Rob Simpson

Maslowski photo

Solitary sandpiper: photo by Rob and Melissa Simpson

Above: Feeding and watching birds at backyard feeders is a wonderful pastime. Enjoyment of this hobby, however, does carry with it some responsibilities to ensure that feeding does not jeopardize the health of wild birds. ***Below left****: Waterfowl such as Canada geese are susceptible to DVE, a virus which erupts in crowded conditions in marginal habitat. DVE outbreaks can wipe out large numbers of wild waterfowl in a short time.*

If you see waterfowl displaying any symptoms of DVE, do *not* handle them! Call VDGIF immediately at 804/367-1000.

Disease Problems At Bird Feeders

In Virginia, three disease problems crop up at bird feeders and birdbaths from time to time. Fortunately, they are relatively easy to prevent.

Salmonellosis

Salmonellosis is a general term for any disease in animals caused by a group of bacteria known as salmonella. Birds can die quickly if

the bacteria spreads through their bodies. Dying birds may go into convulsions, and birds are sometimes thought to be "poisoned" because of rapid death. Infected birds pass the bacteria through their droppings, and healthy birds can become infected from eating food contaminated by the droppings.

Trichomoniasis

Trichomoniasis is caused by a protozoan parasite that invades and causes sores in the lining of the mouth, throat and crop of doves and pigeons. As the sores develop, infected birds become unable to swallow. The disease is spread when infected birds drop food or water that is later consumed by healthy doves and pigeons.

Avian pox

Avian pox causes warty growths on featherless surfaces of a birds face, legs, and feet. The virus that causes pox is transmitted when there is contact between the virus and broken skin of a susceptible bird. The virus can be spread when a healthy bird contacts an infected bird, by healthy birds contacting shed viruses on food or feeders, or by insects contacting pox lesions and then moving to an area of broken skin on another bird.

Feed responsibly!

Several easy precautions can be taken to prevent or minimize problems at feeders:

1) Clean your feeder and bird bath once a month with a solution of one part chlorine bleach and nine parts warm water. Let the solution contact the feeder and birdbath surfaces for a few minutes and then let them air dry.

2) Do not use bird feeders with sharp edges or rough surfaces. Bacteria and viruses can enter even small cuts and scratches on otherwise healthy birds.

3) Don't let food and waste accumulate around the feeder area. Rake the area periodically. Relocate feeders or let some feeders stand idle periodically to help prevent disease transmission.

4) If you have a single bird feeder and large numbers of birds are concentrating there, consider adding a second feeder to reduce crowding.

5) Keep food dry and rodents from coming into contact with stored feed. Mice can carry and spread some bird diseases without becoming affected themselves.

(Adapted from USFWS and Colorado State University publication "Coping with Diseases at Bird Feeders").

For More Information

If you are interested in learning more about wildlife disease, two excellent books are:

Field Manual of Wildlife Diseases in the Southeastern United States by William R. Davidson and Victor F. Nettles. This 1988 publication is available from Southeastern Cooperative Wildlife Disease Study, College of Veterinary Medicine, The University of Georgia, Athens, GA 30602.

Field Guide to Wildlife Diseases. General field procedures and diseases of migratory birds. 1987. Milton Friend, Editor. U.S. Department of the Interior Fish and Wildlife Service. Resource Publication 167, Washington, D.C. □

Betsy Stinson is an Environmental Specialist Biologist with the Department's Wildlife Division.

Taxes... They're for the birds

Ruby-throated hummingbird; photo by Rob Simpson

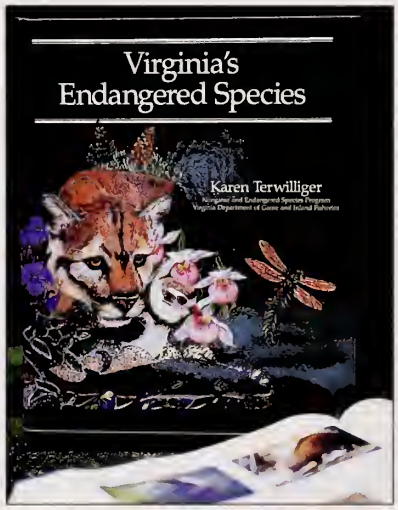
The lives of over 100 species of Virginia's wildlife are in jeopardy, from salamanders to squirrels to many of our brightly colored warblers and sprightly wrens . You can help them this year by checking off a donation to Virginia's Nongame Wildlife Program on your state income tax form.

This program, which is supported strictly by direct giving and tax-checkoff donations, was developed by the Virginia Department of Game and Inland Fisheries (VDGIF) 13 years ago in an effort to direct attention to the alarming decline in nongame species throughout the state. As the state agency responsible for the protection and conservation of all fish and wildlife in the Commonwealth , VDGIF is struggling to keep up its responsibilities to the citizens and wildlife of the state without the benefit of any state tax dollars.

Thus, every dollar from you counts! With the goal of maintaining the state's priceless natural diversity in the face of increasing human-related pressures on the land and our other natural resources, we desperately need to fund critical research and management for the state's severely threatened wildlife.

It's the quality of life in Virginia we are trying to save, not only for us humans with high expectations and bursting populations, but also for those who number only a handful, and live best with simply the feathers on their back and a dry perch to call home.

Please check off a donation to Virginia's Nongame Fund on your state income tax form today, or send your tax-deductible check (made payable to the Treasurer of Virginia) to: Virginia Nongame Wildlife Fund—VW, Virginia Department of Game and Inland Fisheries, P.O. Box 11104, Richmond, VA 23230-1104.



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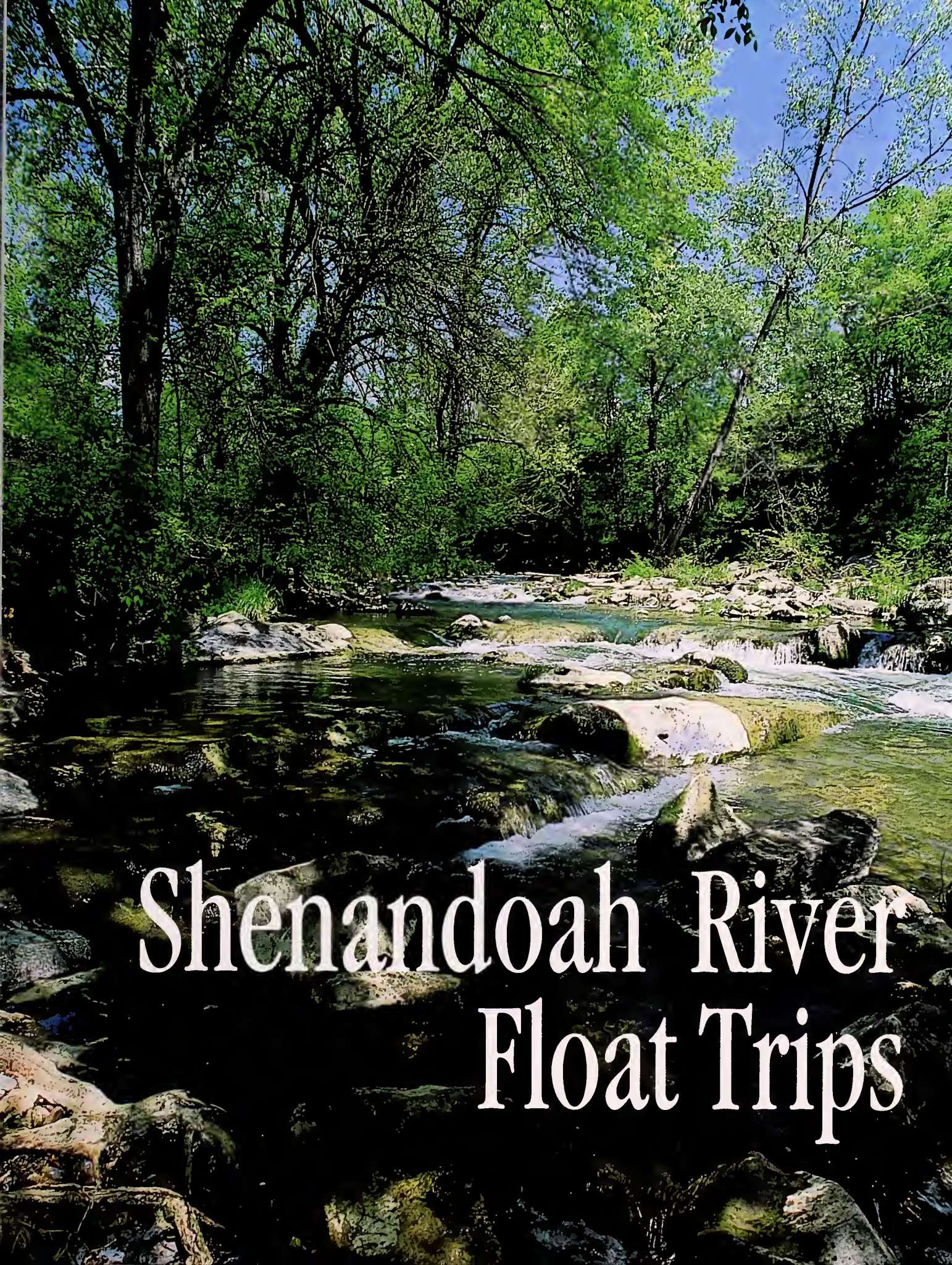


Shenandoah River Float Trips

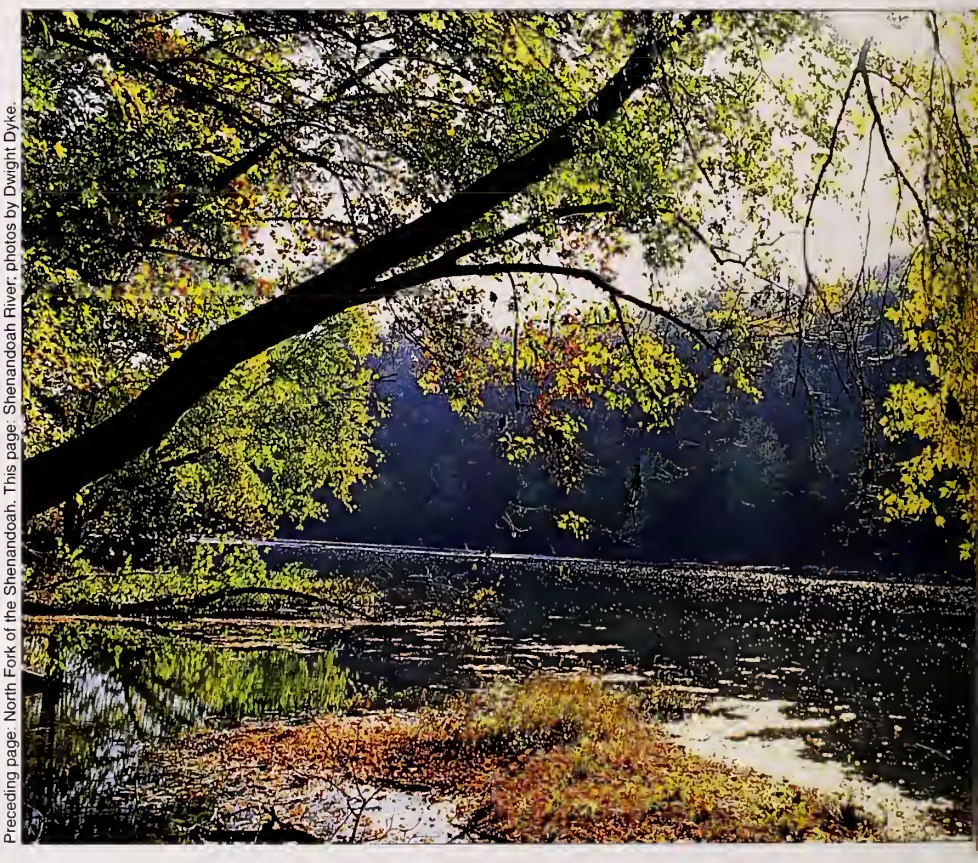
by
Mike Odom, Dan Garren, and Stephen J. Owens

The Shenandoah River and its two major tributaries, the North Fork and South Fork, are sparkling jewels of the scenic and historic Shenandoah Valley in northwest Virginia. This river system flows northeasterly from its headwaters in Augusta and Rockingham Counties to its juncture with the Potomac River at Harpers Ferry in West Virginia. For the most part, these rivers are best navigated by canoe or kayak due to the numerous shallows, ledges, and rapids. However, the use of motorized johnboats by fishermen is common in the main stem of the Shenandoah River and in the impoundments on the South Fork. Prior to an outing, boaters should study a topographical map to help identify any potential hazards (rapids, dams, low-water bridges, etc.) in the section to be navigated.

The *North Fork of the Shenandoah River* begins in the mountains of northern Rockingham County, flows out into the Shenandoah Valley at Cootes Store west of Broadway, and works its way northeast across the valley until it joins Smith Creek immediately upstream of Mount Jackson. From Mount Jackson to Strasburg, the North Fork meanders along the western slope of Massanutten Mountain, which rises out of the middle of the Shenandoah Valley floor. At Strasburg, the North Fork turns east, wrapping around the northern end of Massanutten Mountain and making a beeline to its mouth at Riverton/Front Royal.

Public access is limited to three boat landings, one at *Meems Bottom* (I) (Route 730 near Shenandoah Caverns) offering canoe access, one 20 miles later at *Chapman's* landing (M) (Route 672 at Willow Grove, south of Woodstock) providing canoe access, and one 57 miles later at *Riverton* (R) (off Route 637, immediately downstream of the US 340/522 bridge). Paddlers will need to seek landowner permission to camp along the North Fork or use any of the numerous private boat launching sites, since none of the public landings are close enough to each other for day trips.

The North Fork is a pleasant little river to float due to its clear waters, pleasant scenery, mild whitewater, and abundance of wildlife. However, low flows during summer may require paddlers to walk their boats through some of the shallows, especially upstream of *Meems Bottom*. The primary hazards to navigation on the North Fork are six dams and several low-water bridges. The first dam is an 8-foot structure just upstream of Timberville; three dams are located between Edinburg and the Route 758 bridge east of Woodstock; and two small dams are found between Strasburg and Riverton.



Preceding page: North Fork of the Shenandoah. This page: Shenandoah River; photos by Dwight Dyke.

The North Fork supports a diverse sport fish population, with rock bass being the most abundant. Smallmouth bass are commonly caught in this small, shallow river, but larger smallmouth are infrequently encountered. Largemouth bass, bluegill, redbreast sunfish, channel catfish, and muskellunge may also be caught by the angler, especially in the impounded pools behind the dams.

The *South Fork of the Shenandoah River* begins at Port Republic where the cold waters of the South River join the combined warm waters of the North and Middle Rivers. This lengthy river meanders northeasterly through the part of the Shenandoah Valley called Page Valley, sandwiched between the Blue Ridge to the east and Massanutten Mountain to the west. Paddlers will find that public access points are numerous the entire length of the river, making trip planning easy. In addition to the VDGIF landings, the U.S. Forest Service has canoe launching sites on some of their lands bordering the river. Overnight camping on National Forest lands is permitted, but boaters should contact the Lee Ranger District office in Edinburg (703/984-4101) for locations and details.

The moderately clear water, mild whitewater, mountain scenery, and good smallmouth bass fishing contribute to the popularity of the South Fork. This popularity, assisted by several canoe liveries operating between Luray and Front Royal, can make for a busy river during the warm months. The primary hazards to navigation on the South Fork are four dams. The first dam is located a couple of miles above *Island Ford*. Though it may be tempting, do not attempt to run this old power dam as it has claimed several boats in recent years; portage to the left instead. The second dam is located at the Town of Shenandoah and should be portaged on the right. The third dam is at Newport (approximately one mile upstream of the *Newport* access site) and has a moderately difficult portage on the

right. The last impediment is the Luray Dam (located approximately two miles upstream of the Inskeep access site) which has a very difficult portage on the left side.

Feisty smallmouth bass dominate the diverse sport fish population in this moderate-sized river, giving plenty of action for anglers. The pugnacious redbreast is the dominant sunfish in the South Fork, but bluegill may be encountered in some of the impounded areas, along with largemouth bass. Lunker channel catfish and muskellunge lurk in the deeper holes and impounded reaches as well. Rock bass are present but not very abundant. Late-summer anglers should be prepared to contend with an abundance of submerge aquatic vegetation ("grass") in the shallows of the South Fork that can significantly hinder fishing.

The *main stem of the Shenandoah River* begins at Riverton/Front Royal with the confluence of the North and South Forks, and flows gently into West Virginia (*Note:* the West Virginia section of the Shenandoah River develops into Class III whitewater as it approaches the Potomac River). The well-spaced public access points allow paddlers to design a trip to their liking. Boaters will need to seek landowner permission to camp along the river or use alternative launching sites.

Although not very popular to paddlers due to the amount of flat water, the main stem of the Shenandoah in Virginia offers pleasant scenery (downstream of *Morgan's Ford*) and good fishing for smallmouth bass, redbreast sunfish, largemouth bass, bluegill, channel catfish, and muskellunge. The only two navigational hazards are located on the upper reach of the river: a dam approximately four miles downstream of *Front Royal* which must be portaged on the left (resulting in a long carry), and a low-water bridge at *Morgan's Ford* (Route 624).

On a more somber note, anglers should be aware that fish consumption advisories have been placed on portions of the Shenandoah River system due to a long and tragic history of industrial pollution. Mercury originating from the South River has contaminated fish in the upper end of the South Fork, prompting the following health advisory for the South Fork between Port Republic and the Page/Warren County line: *"Eat no more than one meal (1/2 lb.) per week of fish from these waters. Small children and pregnant women should not eat fish from these waters."* PCBs originating from an industry in Front Royal have resulted in the following health advisory for the entire main stem in Virginia, that portion of the South Fork downstream of the Route 619 bridge near Front Royal, and that portion of the North Fork downstream of the mouth of Passage Creek: *"Fish caught should not be consumed."* Anglers interested in more information regarding these health advisories should contact the Virginia Department of Health at 804/786-3551.

South Fork of the Shenandoah

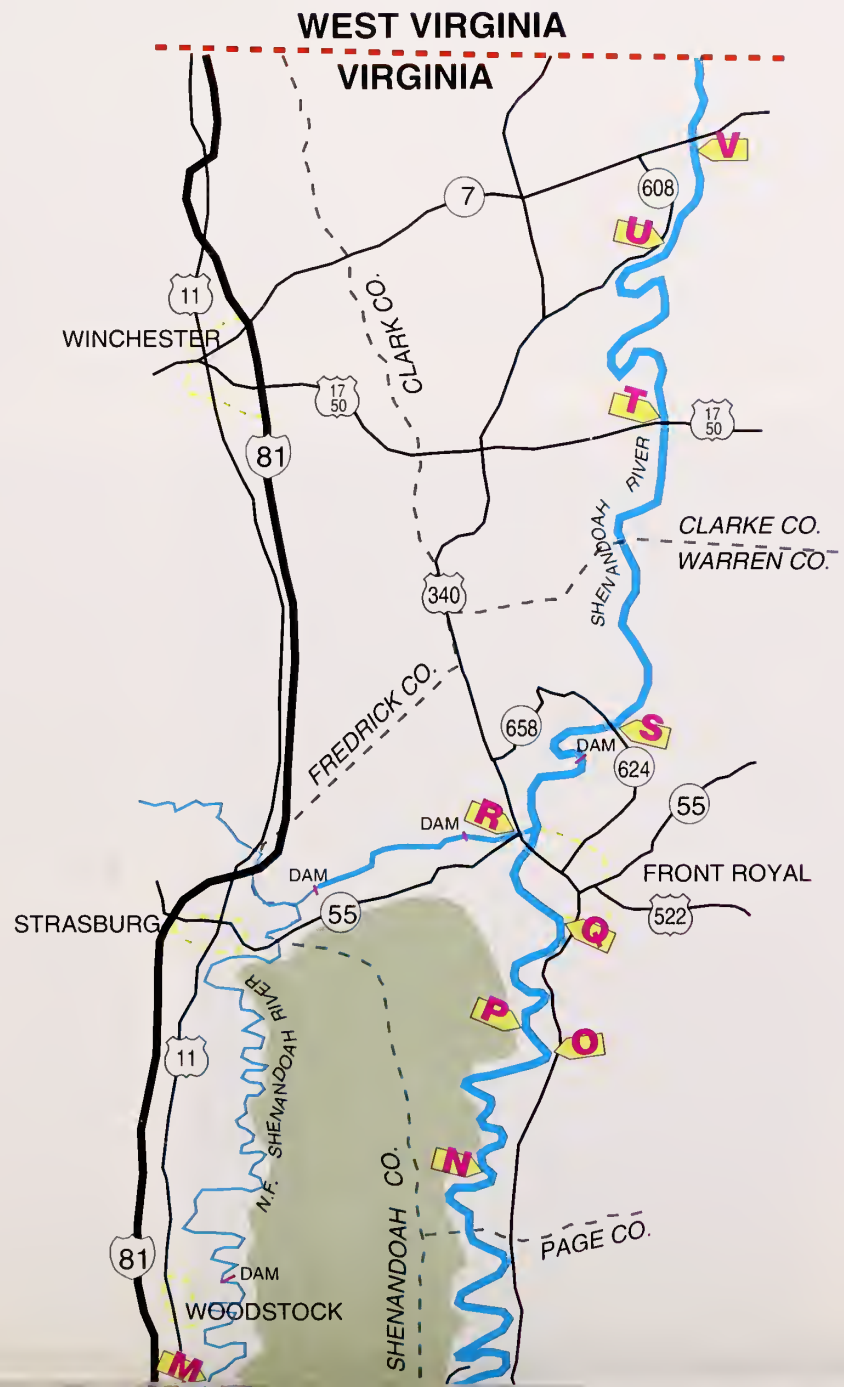
Port Republic to Island Ford
10 miles (A-B)

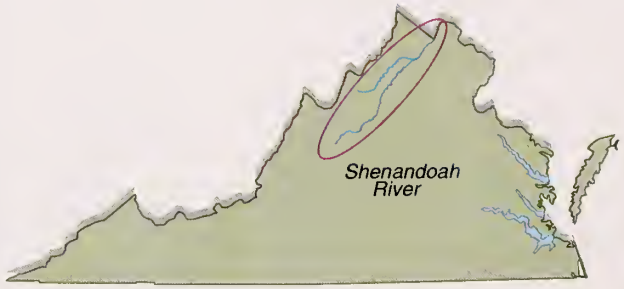
A boat ramp was constructed by VDGIF recently at Port Republic at the confluence of the North River and South River. This facility can accommodate up to 25 vehicles and is one of the most scenic spots on the South Fork of the Shenandoah River. As you approach a big island about one mile below Port Republic, take the channel to the right. It is deeper and provides better fishing than the left-hand route. Boaters must take precautions as they approach an old power dam above Island Ford. Portage your canoe (to the left of the dam), as running it is impossible. Long, flat runs and pools provide exciting redbreast sunfish angling. Smallmouth bass can be taken in fair numbers along this reach.

Island Ford to Elkton
7 miles (B-C)

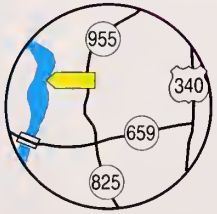
A picturesque float, the South Fork meanders through farmland, once again providing excellent redbreast sunfish and rock bass fishing opportunities in the deep pools, and lots of small smallmouth bass action in the riffles. A Class I-II waters with one small ledge below Island Ford. Look for the new VDGIF landing on the right-hand side of the river going downstream near the Rt. 33 bridge.

Shenandoah River Boat Landings

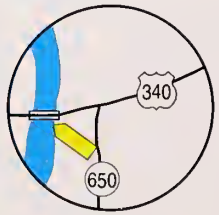




A
Port Republic

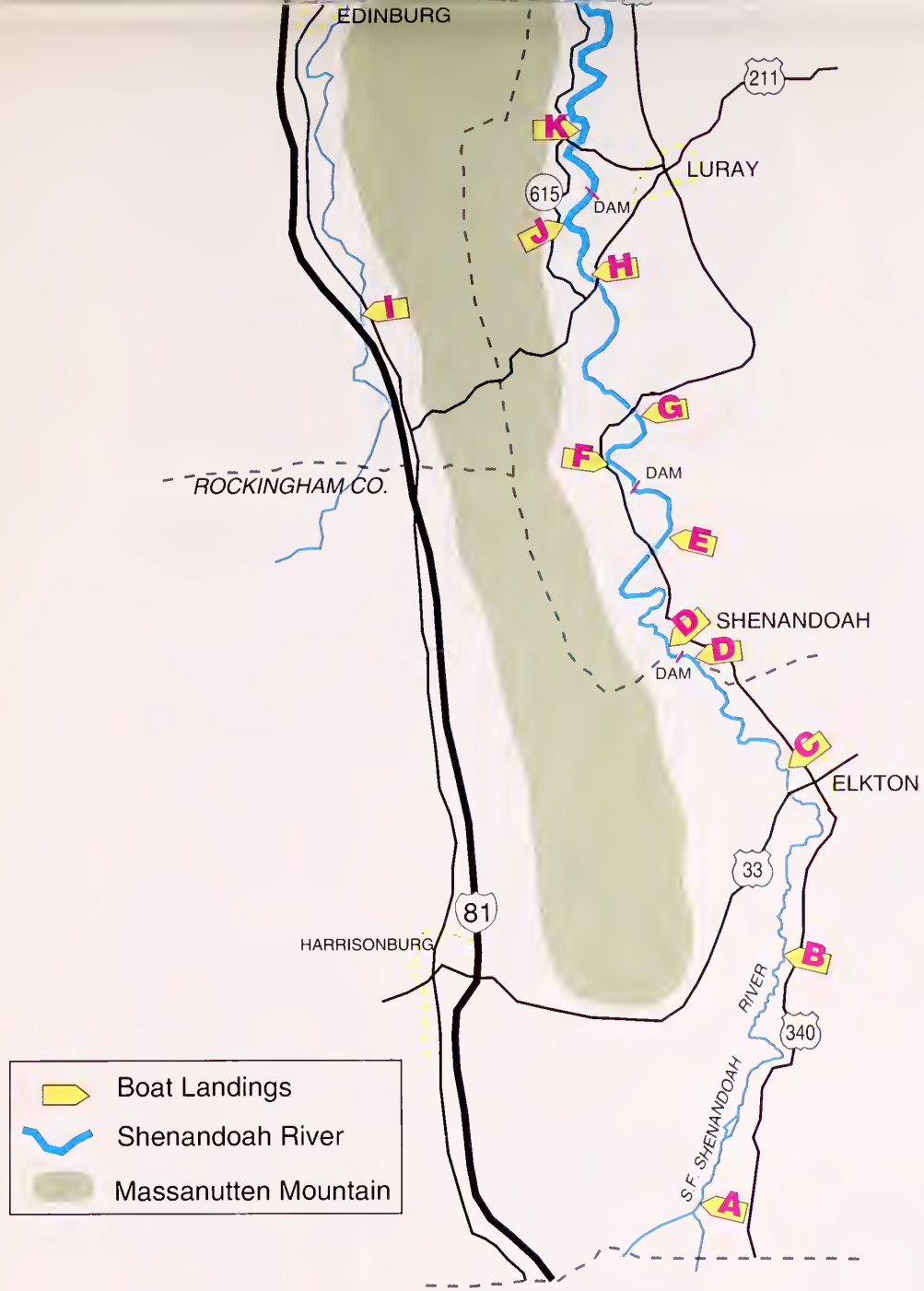


G
Alma



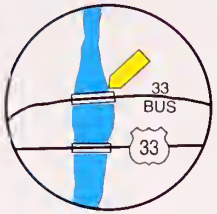
B
Island Ford

H
White House



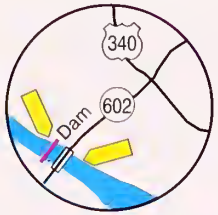
Map graphics by Pels

C
Elkton Landing



Scheduled for Completion 1994

D
Shenandoah



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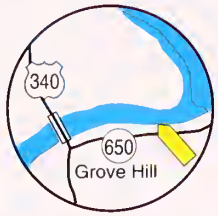
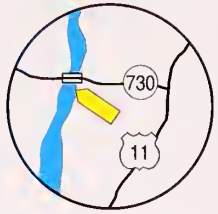
E
Grove Hill



F
Newport

I
Meems Bottom

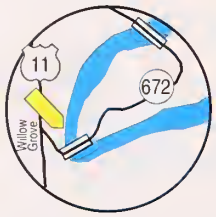


J
Massanutten

K
Inskeep

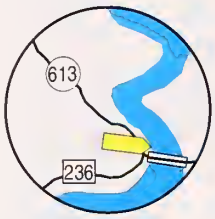
L
Foster's

M
Chapman



R
Riverton

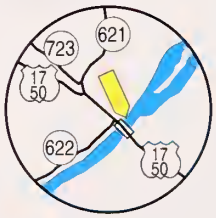
N
Bentonville



S
Morgan's Ford

O
Karo

T
Berry's Ferry

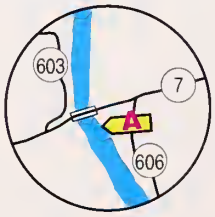


P
Simpson's

U
Locke's

Q
Front Royal

V
Castleman's Ferry



Elkton to Shenandoah
7 miles (C-D)

Put in at the VDGIF boat ramp at Elkton (scheduled for completion in 1994) and rig up a small crayfish imitation for some smallmouth bass excitement. Get out of your canoe occasionally to wade the riffles and runs for best bronzeback results. Rock bass and redbreast sunfish add to the angling fun. A long power pool exists behind the 10-foot high dam at the town of Shenandoah. Pig-and-jig for largemouth bass or use live minnows for a trophy musky. Take out is on the right side of the river above the dam.

Shenandoah to Grove Hill
8 miles (D-E)

Access the river at the VDGIF ramp downstream of the Shenandoah hydro dam near the Rt. 602 bridge crossing. A ramp is located upstream of the dam on the right but is not recommended except for takeout or upstream travel. Takeout at the VDGIF dirt ramp on the right at Rt. 650 just downstream of the U.S. 340 bridge.

The river is accessible only to canoes at this location. This is an easy float mixed with flat stretches and Class 1 rapids. This stretch has numerous smallmouth bass, rock bass, redbreast sunfish, musky, channel catfish, and in the slower reaches largemouth bass and bluegill.

Grove Hill to Newport
6 miles (E-F)

Access is at a VDGIF ramp located on Rt. 650 near Grove Hill. The takeout is on the left, downstream from Newport on U.S. 340. Both access sites are dirt and are not accessible to trailers.

This section of river is comprised of several large pools and allows the angler a chance to fish for muskellunge, largemouth and smallmouth bass, bluegill, redbreast sunfish, and channel catfish.

Newport to Alma
3 miles (F-G)

Launch at the VDGIF ramp located north of Newport on U.S. 340 and takeout on the right side of the river upstream of the U.S. 340 bridge at Alma. Both access points are primitive and not recommended for trailers. This section is riddled with Class I riffles and runs which provide for quality smallmouth bass and rock bass fishing.

Alma to White House
7 miles (G-H)

The VDGIF access site at Alma is located just upstream from the U.S. 340 bridge on the right side of the river. The takeout is downstream of the U.S. 211 bridge on the right bank and can be accessed by Rt. 646. The Alma launch site is primitive and trailers are not recommended.

This stretch has a diversity of habitat: pools, runs, and riffles that provide angling opportunities for smallmouth bass, rock bass, muskellunge, sunfish, and channel catfish.

White House to Massanutten
4 miles (H-J)

The VDGIF ramp at White House can be accessed from U.S. 211 by taking Rt. 646. The takeout at Massanutten is on the left bank of the river and can be reached from Rt. 615. Both ramps are concrete and can be utilized by trailers.

The river in this stretch is characterized by large pools which provide excellent musky habitat.

Largemouth bass, bluegill, and channel catfish may also be found in the deeper pools, while smallmouth bass and rock bass may provide action in the riffle and transition areas.

Massanutten to Inskeep
3 miles (J-K)

The Massanutten VDGIF ramp can be reached from Rt. 615. The takeout at Inskeep can be reached off Rt. 675, downstream of the bridge on the left bank. Trailers cannot access the Inskeep ramp. This float has a dam that must be portaged halfway through the float.

This section of river has many pools and provides excellent muskellunge, largemouth bass, and smallmouth bass habitat.

Inskeep to Foster's
9 miles (K-L)

Access to the Inskeep VDGIF ramp is from Rt. 675 on the left bank of the river downstream of the bridge. The Inskeep ramp is primitive and trailers are not feasible. Takeout at Foster's on Rt. 684 on the left bank of the river. A Forest Service canoe ramp at Bealer's Ferry is located approximately 3/4 of the way from Inskeep, also on the left bank.

Dwight Dyke

A diversity of habitats are found in this section of the river as riffles, runs, and pools which provide angling opportunities for smallmouth bass, rock bass, muskellunge, redbreast sunfish, largemouth bass, and channel catfish.

Foster's to Bentonville
18 miles (L-N)

Foster's can be accessed from Rt. 675 downstream of the bridge on the left bank of the river. The VDGIF takeout ramp at Bentonville can be reached from Rt. 613 downstream from the bridge on the left bank. Three Forest Service canoe ramps are located between the Foster's and Bentonville ramps. The Forest Service access points are Goods Landing (2 miles), Seakford (6 miles), and Batzell (11 miles). Canoe and trailer access is available at the Foster's and Bentonville ramps.

This section contains numerous Class I and Class II rapids which provide excellent canoeing and fishing. The best angling opportunities in this section will be for smallmouth bass, rock bass, and redbreast sunfish.

Bentonville to Simpson
9.5 miles (N-O-P)

Put in at Bentonville VDGIF ramp on Rt. 613. Takeout at Simpson VDGIF access on Rt. 623 (canoe access only). A rough trailer ramp is located at Karo (Rt. 340) approximately 1/2 mile upstream from Simpson. A shallow section of river with mostly rocks and ledges makes this good smallmouth territory. Class II rapids between Karo and Simpson could add a little excitement to the trip.

Simpson to Front Royal
6 miles (P-Q)

Put in at VDGIF ramp on Rt. 623. Access limited to canoes only. Takeout at Front Royal boat ramp on Rt. 681. This section is shallow, with lots of riffles and rock cover. It is a fairly easy float with good smallmouth bass cover.

Front Royal to Riverton
4 miles (Q-R)

Put in at Front Royal VDGIF boat ramp on Rt. 681. Takeout on Riverton boat landing, 1/4 mile upstream on the North Fork. This section offers good smallmouth fishing along with an easy, short float. There are some good deep pools near the end.

Main Stem of the Shenandoah

Riverton to Morgan's Ford
13 miles (R-S)

Put in at VDGIF ramp located off of Rt. 340 beside the bridge over the North Fork in Front Royal. Takeout at VDGIF ramp at Morgan's Ford on the right by the low-water bridge (Rt. 624). This section of the river is slow-moving and deep, producing quality catfish, bluegill, largemouth bass and carp fishing. A dam four miles downstream requires a portage. Takeout allows rough trailer access, although a canoe is recommended for this float due to the portage.

Morgan's Ford to Berry's Ferry
11 miles (S-T)

Put in at VDGIF ramp beside the low-water bridge on Rt. 624. Canoes and limited trailer access is available at this ramp. Takeout is under the Rt. 50 bridge at the VDGIF concrete launch on the left side of the river. This is an 11-mile float with a fairly even mix of riffles, runs and pools. It offers excellent fishing for smallmouth and bluegills, as well as muskellunge. Canoeists of all experience levels should enjoy this float.

Berry's Ferry to Lockes
10 miles (T-U)

Put in under the Rt. 50 bridge east of Winchester. Take out on left at Lockes, Rt. 621. Both VDGIF sites offer concrete ramps for canoe or trailer launching. Numerous small riffles and Class I rapids combined with an abundance of aquatic vegetation offer spectacular angling opportunities. This section boasts one of several Indian fish trap remnants found on the river system.

Lockes to Castleman's Ferry
5 miles (U-V)

Put in at ramp on Rt. 608 in Clarke County. Take out at the Rt. 7 low-water bridge. Both VDGIF access sites offer concrete ramps for canoe or trailer launching. This section has numerous riffles and Class I rapids. Lots of rock cover adds to the smallmouth fishing. Bluegills are plentiful in this section, also. ☐

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Produced by the Virginia Department of Game and Inland Fisheries in cooperation with the U.S. Forest Service.

For more information, call the VDGIF regional office in Verona at 703/248-9360.

Photo by Dwight Dyke

Scotty Lovett

Safety and Spring Turkeys

Scotty Lovett

by Steve Ausband

Take precautions this spring when turkey hunting. Make sure you're not mistaken for a turkey—your life may depend on it.

My hunting buddy Larry Clowers once told me that he had bought enough camouflaged clothing to hide a platoon, wrapped his shotgun in camo tape, masked his face, covered his hands, and gone turkey hunting in the most remote, mountainous terrain he could find. He looked great. Sitting in his own living room, he could have been mistaken for a brushpile. I've never seen better camo. Just at dawn on opening day, with the woods wet from an early sprinkle, he settled down with his back to an oak tree and got ready to call. He was a blend of light and dark shadows, as much a part of the woods as the bark on the trees. Then he heard a noise.

It was a soft rustle of leaves just behind his tree, over his right shoulder. Something was moving in the wet, shadowed woods, but he could not see what it was. He waited. Nothing. Then, more movement, closer this time.

After a few minutes a man stepped into view from behind the tree. He had been slipping stealthily through the woods, making almost no noise, and he had not seen Larry, who must have looked like a nondescript pile of leaves and bark anyway. The man was only four feet away. Larry didn't want to startle the guy, so he said nothing. The man surveyed his surroundings a few moments, then started to sit down *beside Larry's tree*. It was time to speak.

"How ya doin'?" Larry asked in a loud, friendly voice.

"Ahhhhhhggh!!!"

"Seen anything?"

"Ah, ah, ah,...I didn't see you," the man stammered, holding one hand over his chest and looking at the bush that had just spoken to him. Then without another word he simply left. Larry went home too; he said he just didn't feel much like turkey hunting anymore that day.

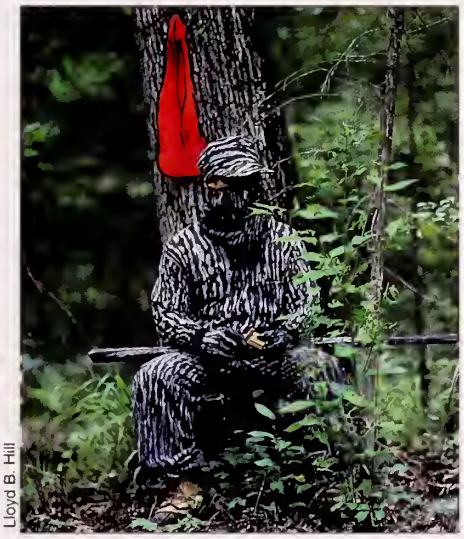
The story is funny, especially if you're able to watch Larry do his imitation of a guy looking at the talking bush, but it could have taken a much more serious turn.

Since Virginia and other states started mandating the wearing of blaze orange during the fall gun season several years ago, the accident rate involving fall hunters being mistaken for game has dropped to

an all-time low. There are still a few tragedies every autumn, but almost all of them involve a supposedly empty gun being put into or taken out of a vehicle, or some other careless mishandling of a firearm. People in orange hats or vests are just very hard to mistake for deer or turkeys. Waterfowl hunters don't wear blaze orange, of course, but a guy in a duck blind doesn't look much like a deer either.

These days, it is mainly the spring turkey hunter who runs the risk of being mistaken for his own quarry—for splendidly obvious reasons. Turkeys are sharp-eyed birds, and they are constantly on the alert for (and are instantly terrified by) anything out of the ordinary in their woods. So, most successful turkey hunters wear the best camouflage they can find. They try to look just like a bush, or a stump, or a pile of leaves. Then they try to sound just like a turkey. Now, a bush that sounds like a turkey and maybe even moves a little bit is bound to call attention to itself. It's not a *big* risk—not like playing in freeway traffic—but it is a risk, and who wants to entertain any possibility of stopping a load of copper-plated #4 shot? There are lots of things a hunter can do to make himself safer while trying to call in the biggest, wariest bird in the woods. Here are a few of them.

Lloyd B. Hill


Lloyd B. Hill

Lloyd B. Hill

One strongly recommended safety measure you can take while spring gobbler hunting is to wrap a blaze orange sash around, or hang a blaze orange vest on, the tree you're sitting against. The sash or vest can also provide an extra measure of safety if you wear it while traveling in or out of the woods. Also, make sure of your target before you shoot!

Picking a nice, broad tree as a backdrop for your calling is the first step. The tree helps break your outline so that you virtually disappear into the shadows; it might help rest your back if you get tired from sitting; and it hides you from a bird approaching from the rear. You can see whatever is in a position to see you, and with the right luck, you'll see it first.

Just as important, from the safety standpoint, is that you can see *anybody* who can see you. If you do see someone in the woods, make him or her aware of your presence. Don't wave first, and for goodness sake don't let the hunter get right beside you, unaware that he or she is not the only human being around for miles, and then strike up a conversation, the way Larry did.

If you use a decoy, as many hunters do these days, be very careful how you set it up. Obviously, the purpose of the hen decoy is to bring the gobbler in close enough for you to get the shot, so you'll want to be where you can see anything approaching the decoy. As you set the thing up, be aware of how another hunter approaching it might see it, and be sure to put yourself in a position where you won't be hit if he takes a shot at it. Sure, 99 people out of 100 might not shoot at a decoy of a hen turkey, but a combination of the 100th person and an ill-chosen angle of fire is not hard to imagine. Get yourself out of line of any possible shots.

I've got an old cedar call in the basement that, shaken just right, sounds exactly like a hoarse, raspy-voiced old gobbler. Sometimes owl hoots and crow calls won't make a roosting gobbler sound off, but another gobbler sure will. The problem is, anything that sounds just like the biggest prize in the spring woods is

just inherently unsafe to have on your person. When I set up and call, I use hen calls. Show me a man dressed in full camouflage who sits on a stump and sounds off a gobbler call in April, and I'll show you a man with a death wish. The *only* time I use the gobbler call is in the late evening, when I am trying to locate roosting turkeys. Even then, I wear so much blaze orange I look like a campfire. When I'm covered up in camo and nestled down beneath a tree, I try to sound like a hen. I know there may be some folks out there who can't tell the difference, or don't care enough about the difference, but by obeying all the other common-sense rules, I think I stay pretty safe.

What makes a human look like a game animal or bird sometimes is not that the whole person suddenly appears to be a deer or a turkey. Some part of him—an arm, a patch of hair, a shoulder, whatever—stands out from his surroundings, and another hunter, not seeing a whole person, has to interpret in a few seconds what he has just seen.

The fact that the whole person is not visible is precisely the problem. If there is something near the shoulder or hair that says "human" (like a blaze orange hat), there is no danger. It is when there are no clues that the potential for an accident begins, and when there are cues that say "non-human" or "game," the danger gets very real.

A person wearing a nondescript brown jacket and carrying a pair of antlers in his left hand for rattling would not look at all like a deer. But an arm, seen against a backdrop of trees and brush and connected to antlers, can be rearranged by anxious eyes to look like a deer. That's when blaze orange hats work; they scream "human" so loudly that the eyes never have a chance to rearrange the arm. The point of all this is that some colors scream "turkey," and that can be dangerous in certain situations.

Reds, whites, and blues are all present in the head of a spring gobbler. A hunter sitting motionless in a blind or against a tree does not resemble a turkey, but a stray splash of color—a patch of white or red long johns exposed by an open-necked shirt, a blue cap you wore because you couldn't find your camo hat—can draw unwanted attention to your setup. Now, the hunter still isn't visible, because the rest of his camo job is very good and his outline is broken by the trees and shrubbery around him. But part of him is visible, and that part doesn't say "human." In fact, it might say "turkey." In advertising, one calls such a situation "sending the wrong message." In the woods, one calls it deadly.

While I've never known a turkey hunter who wore blaze orange while hunting, I know several who wear or carry the color while walking into the woods or setting up the ambush. Your chances of actually sneaking up on a gobbler are infinitesimally small anyway, so you might as well keep yourself safe between the car and the blind or hunting site.

Lloyd B. Hill

Choose a tree to lean against which is wider than your shoulders. Also, make sure you announce your presence to approaching hunters by speaking first.

Turkey hunters often have to move from one potential site to a more promising one. Good hunters know that their chances of getting the bird are only good while they are remaining motionless and calling or waiting. Trying to slip through the woods and surprise a turkey is usually a fruitless effort. It also can be dangerous. Instead, sit still, look like a bush, and sound like a turkey. For good measure, wrap a blaze orange sash around the broad tree you're sitting against. When you have to move, look like a person. Wear blaze orange. Then, when you set up again, resume your bush and turkey disguise. That's productive and safe.

It's a real good idea to know your area and the kind of hunting pressure it usually gets. Most of my own hunting is on private land—my own or that of a close friend. I've been real lucky. There is a 20,000-acre wildlife area just a few miles from my house, and it sees a lot of hunter pressure during turkey season. If I hunt there, I always go with the assumption that I might see another hunter. The public area is very productive, and some nice birds come out of it every year, but I feel a little more relaxed on private land. I don't expect to see anybody else on my own land, and I get very grumpy if I see someone I don't know, but I never rule out the possibility. Still, there is no place I hunt where I feel relaxed enough to break the major rules.

The best guide is common sense. When you're trying to sound like a turkey and look like a bush, be sure something that eats turkey, like another hunter, isn't inspecting your setup. Or if he is, make sure you have a big tree with a blaze orange sash around it between you and him. Watch where you place a decoy, and be aware that if a decoy will fool a gobbler with love-longing, it will fool a human with a 12 gauge. When you move from spot to spot, you call attention to yourself. Be sure you look like a blaze-orange human then, and not like something else. And don't wear anything that might trick a less expert eye into thinking it sees the blue, red, or white of a turkey's head.

Finally, if you should be moving through the woods just at dawn and start to sit down beneath a big, comfortable oak and start calling, try not to panic if the bush next to you asks how you are doing. Breathe deeply and pretty soon your heartbeat will return to normal. It's probably just Larry Clowers in a new camo outfit. □

Steve Ausband is a frequent contributor to Virginia Wildlife.

Hawks for Lunch

Allan Hearne

Tired of dreary lunch hours? Take up hawk watching from a rooftop.

Rob and Melissa Simpson

by Brian Taber

As the hands on the office clock inch slowly toward noon, the left side of my brain, the logical side, says, "Get your work done, there's still time." The right side of my brain, the fun-loving side, is screaming, "The front is coming, it's clouding up, there will be hawks moving today!"

As I head out for my lunch hour, I check the sky quickly, then get in the car for the short ride to one of the open areas where I can watch for migrating hawks. I'll have 40 minutes or so and chances are that I'll see some.

This has been a favorite routine of mine for several years. I never quite knew what to do with myself at lunchtime until I finally discovered that I could squeeze in some quality birding time while I eat.

Hawks are migrating most of the year, peaking during the months of April, May, September and October. The middle of the day is a good time to find them, too, though they tend to fly higher than they do earlier or later in the day. I never see huge numbers of birds like those found at such traditional hawk concentration points as Afton Mountain in the Blue Ridge or Kiptopeke on the Eastern Shore, but there is a steady enough stream over Williamsburg where I work to keep me interested.

The most common hawk I see is the sharp-shinned, with its characteristic short, rounded wings, long tail and flap-flap-glide manner of flight. American kestrels, with their sickle-shaped, pointed wings are almost as numerous as sharp-shinneds. Northern harriers are regular migrants, too, displaying long, thin wings and a rather lazy, nighthawk-like wingbeat. Some-

Rob and Melissa Simpson

*Hawk migration in Virginia peaks during April, May, September and October, and raptors the birdwatcher might commonly identify silhouetted in our skies are the osprey (**top**), the red-tailed hawk (**inset**), and the sharp-shinned hawk (**above**). A Cooper's hawk (**preceding page**; photo by Rob Simpson) might also pass through high in the sky.*

times Cooper's hawks appear, and on a rare day, the merlin and the peregrine falcon may speed by.

Larger, heavier-bodied birds, like the red-tailed, red-shouldered and broad-winged hawks provide still more variety. Since there is so much water in this part of Virginia, ospreys are a familiar site as well, having rebounded well from their DDT-related decline of recent decades.

Even rare birds can be seen, such as the immature northern goshawk and the two golden eagles which once surprised me. Three other rare birds which I hope to find one day are Mississippi and swallow-tailed kites and rough-legged hawks.

I also regularly see bald eagles, turkey vultures and black vultures, though it's difficult to tell if they are migrating because there are substantial year-round populations.

Since hawks, vultures and eagles are generally up very high, their field marks are often difficult to see, leaving mostly shape and size as the best clues to their identities. Their colors may be lost, but many birds have bold patterns on their wings, bodies and tails that can be seen at great heights. I sometimes practice identification at home by studying my field guides from across the room, since the tiny image is more like what I really see. However, many of the birds still go unidentified because of extreme altitude or poor light conditions.

I have become interested in the behaviors of the non-migrating hawks as well, the ones I call "locals." The red-taileds, red-shouldereds, ospreys, bald eagles and both species of vultures are locals which nest in the area, and I usually conclude that they are not migrating when I see them down low and not hurrying north or south, or when they are in the same spot day after day.

The red-tailed hawks frequently circle in large, slow circuits and sometimes hang motionless, like a kite, letting the wind hold them in place. They can even hover briefly on flapping wings, though this takes a great deal of energy.

The red-shouldereds usually seem more shy, inclined to pass by just over the treetops, and often giving their thin, high cry.

Ospreys glide over the rivers and lakes, occasionally making their showy dives for fish. Sometimes I see them as they consume their prey from a conspicuous waterside perch.

The bald eagles are usually very high, sometimes making it hard to distinguish the familiar adult pattern from the mottled look of the youngsters. They may be nesting along the James River or perhaps

Rob and Melissa Simpson

Rob Simpson

Rob and Melissa Simpson

Rob and Melissa Simpson

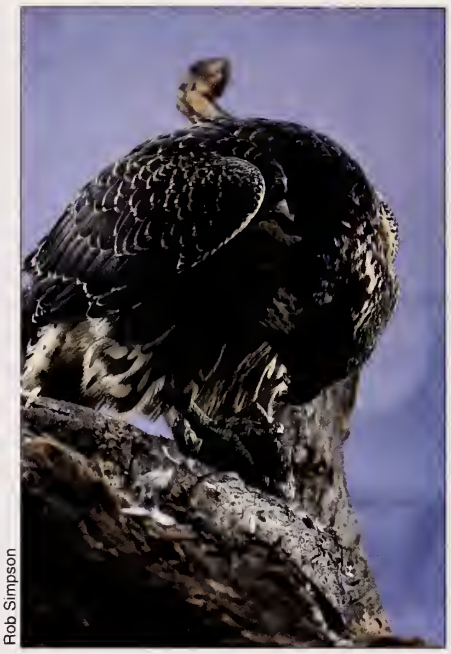
*Since hawks, vultures, and eagles are generally spotted high up in the air, their field marks are often difficult to see, leaving shape and size as the best clues to their identities. Broad-winged hawks and turkey vultures (**top** and **above**) are travelers of our skies, and spotting a rare migrating merlin (**above right** and **right**) makes for a memorable day.*

visiting at any time of the year.

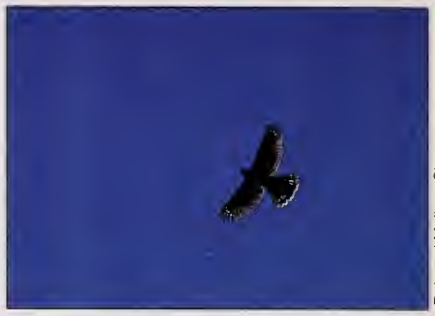
Black vultures, with their short tails and white primaries, are easy to distinguish, as are their cousins the familiar turkey vultures. Both species can soar without flapping for long periods while they scan for carrion.

There are winter locals too, which could include any of the hawks, except for the broad-wingeds and ospreys that are typically in Florida and Central America during this time. These locals are seen perched or hunting, concentrating their efforts on surviving the cold temperatures.

While I eat my lunch, I am reminded that most hawks, like people, are at the top of their food chain. Though this might seem to be an en-



Rob Simpson



Rob and Melissa Simpson

Rob Simpson

Rob and Melissa Simpson

Steve Maslowski

Even though their colors may be lost at such high distances in the sky, the bold patterns on the wings, bodies and tails of many raptors can be seen at great heights. With the reintroduction of the peregrine falcon ***(top)*** *in the state, one might be lucky to catch a glimpse of one as well as the rare winter visitor, the Northern goshawk* ***(above)****. The Cooper's hawk* ***(top right)*** *is a permanent resident (though uncommon), as is the bald eagle* ***(middle right)****, which has made a remarkable comeback in recent years. The rough-legged hawk* ***(above right)*** *has wintered rarely here and would be a terrific find. All in all, there's no end to the surprises of hawk watching!*

viable position, it does not insure safety. In fact, the pollutants which find their way into smaller prey can become so concentrated by the time they are consumed by hawks that they are deadly. We are all eventually dependent upon a totally healthy environment.

Sometimes at lunchtime, there are few birds or none at all. When this happens, it is still quite relaxing to stare at the clouds and sky and forget about work for awhile. Sometimes I solve problems or get ideas during this quiet time. Blood pressure must surely drop. At any rate, I am always refreshed when I return for the afternoon.

Many of my friends who pursue bird study lament that working seriously interferes with the ability to get out and see birds. While this is certainly true, lunch hours can provide just enough time to keep in touch with the yearly movements of birds. It is especially easy to do in the case of hawk-watching, since no particular habitat is required that takes too long to drive or walk to. In cities, office building rooftops often have access and serve the purpose quite well. Wherever you are, as long as there is a clear view upward, you're in the hawk watching business! ☐

Brian Taber is a board member of the Virginia Society for Ornithology and past newsletter editor of the Williamsburg Bird Club.

Busy Year For Game Wardens

Virginia Game Wardens made 14,667 arrests for violations of wildlife and boating-safety related laws in 1993. One highly successful operation to stop the illegal dumping of tires took months of investigation involving high-tech surveillance techniques. "Operation Deflate" received nationwide media attention, bringing public attention to our increasing efforts to curb the violation of our natural resources by enforcing environmental regulations, as well as those traditional ones concerning game and fish.

Undercover activities by the Law Enforcement Division of the Virginia Department of Game and Inland Fisheries regarding the commercialization of deer, striped bass and other wildlife resulted in the arrests of 21 defendants and a total of 105 felony and misdemeanor charges.

In addition, five game wardens were assigned to the Governor's COMMAND drug task force full time, with an additional five wardens being assigned as supplementary officers. During the year, the task force made a total of 485 drug arrests, seizing drugs with a street value of $15.5 million. □

Zebra Mussels Intercepted!

While inspecting a 30-foot motor yacht shipped in from Michigan, Tom Hardy of Pelican Point Yacht Club on Smith Mountain Lake found what he suspected were adult zebra mussels and reported the finding to VDGIF. An investigation by Fisheries Manager Bud LaRoche verified that Hardy had indeed discovered about 30 adult zebra mussels hitchhiking on the vessel in the area of the twin inboard outboards. "This is the first verified occurrence of the mussel in Virginia to my knowledge," said LaRoche.

Hardy reported that the yacht had come from the Menominee River area of Lake Michigan by flatbed truck and had been out of water for four days when it reached Virginia. Prior to shipping, the yacht had been washed down with muriatic acid and Hardy stated that the mussels he found appeared to be dead. However, as an extra measure to assure that all the mussels had been killed, he washed the boat down with a strong salt solution and left the boat out of the water for an additional three days.

"With the first verified occurrence of zebra mussels entering Virginia, it becomes even more important that both the general public and private yacht clubs and marinas be on the lookout for the mussels," said LaRoche.

The invasion of zebra mussels into Virginia would likely wipe out Virginia's unique and already threatened native mussel species and cause state taxpayers millions of dollars to unclog mussel-infested pipes in hydroelectric facilities. Please:

* Don't bring them to Virginia. If you are in infested waters, check your boat and trailer for attached adults. Inspect live wells, bait buckets, trailer tires, and all boat parts. Leftover bait or water should not be transported.

* Drain all water from your boat and rinse off boat and trailer with a high pressure hose. Washing is important even if adults cannot be detected. Allow boat and trailer to dry 2-4 days, preferably a week. *Adult zebra mussels can live up to 7 days without water.*

* If possible, rinse everything with salted water (1/2 cup table salt per gallon water), then flush with fresh water.

* Don't throw them back! If you find a zebra mussel or cluster, scrape off and save a few in a jar with alcohol. Crush the rest and dispose in the trash.

* Report all suspected sightings of zebra mussels to the Fisheries Division of the Virginia Department of Game and Inland Fisheries at 804/367-1000 or write to us for more information at 4010 W. Broad Street, Richmond, VA 23230-1104. □

Did you know...?

The following highlights are contained in the preliminary report of the 1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation:

* More than 98 million Americans 16 years old and older participated in fishing, hunting, and nonconsumptive wildlife-related activities in 1991. This represents 51 percent of the adult population.

* More than 39 million people 16 years old and older fished and hunted in 1991. They spent $41 million on food, lodging, transportation, equipment and other expenses related to fishing and hunting.

* Nearly 35 million people 16 years and older went fishing in 1991. They spent an average of 14.5 days each fishing and spent an average of $728 each on the sport. Some 30.4 million anglers went freshwater fishing while 8.7 million went saltwater fishing.

* Anglers spent $11.7 billion in 1991 for fishing trips, $9.2 billion on equipment, and $4.1 billion for licenses, stamps, tags, permits, land leasing and ownership, membership dues and contributions, and magazines.

* Nearly 14 million people 16 years and older went hunting in 1991. They spent an average of 17 days each hunting and spent $900 each on the sport.

* Hunters spent $3.4 billion for trip-related expenses, $5.1 billion on equipment, and $3.7 billion on magazine, membership dues and contributions, land leasing and ownership, and licenses, stamps, tags and permits.

* In 1991, 76.5 million people 16 years old and older participated in nonconsumptive activities for the primary purpose of feeding, observing or photographing wildlife. They spent $18 billion on these activities.

* Expenditures by nonconsumptive users include $7.5 billion on trip-related costs, $9.6 billion for equipment, and $1 billion on dues and contributions to wildlife-related organizations and magazines. ☐

State Boaters Access Program Receives Excellence Award

The Boater Access Program of the Lands & Engineering Division, Virginia Department of Game and Inland Fisheries was presented the 1993 State Program Excellence Award by the State Organization for Boating Access (SOBA) at its annual conference in Baltimore, Maryland.

The award was given in recognition of Virginia's Maintenance Management Plan for Public Boat Landings.

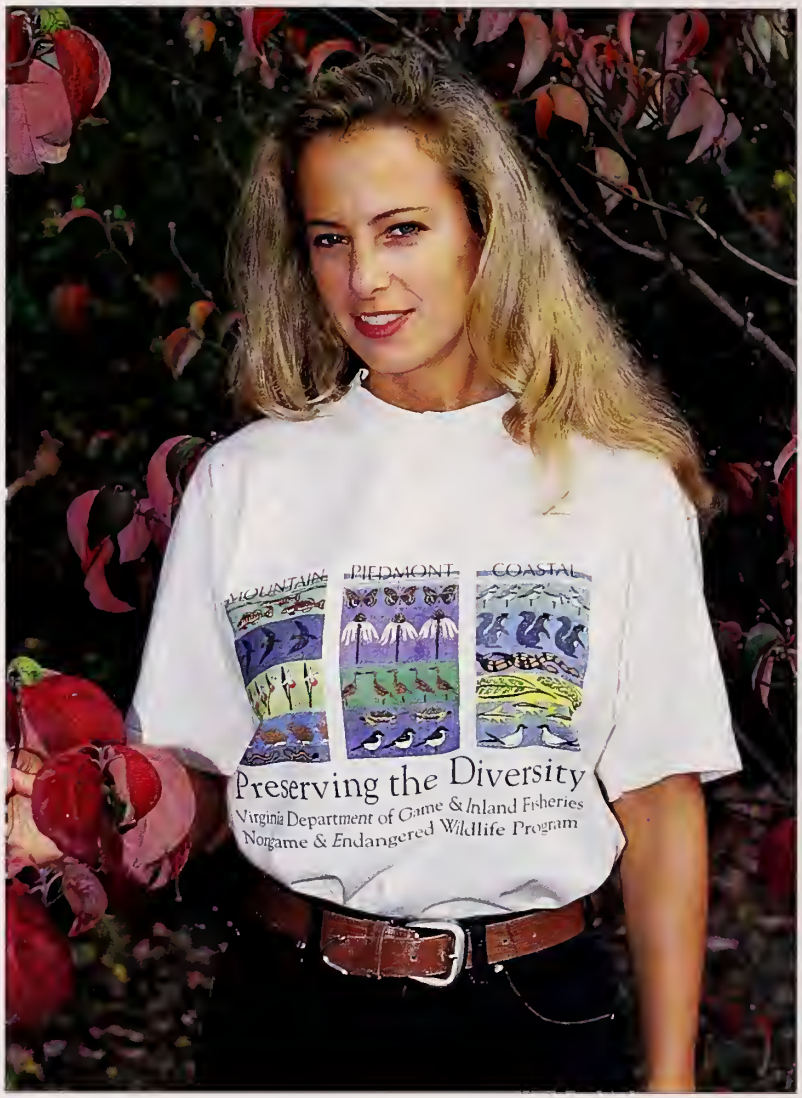
The Virginia program was cited because it:

* Developed a maintenance management plan to increase safety for boaters, reduce repair costs, limit liability and maintain their areas to a higher standard.

* Initiated a grants program with cities and counties to increase numbers of access, while limiting their fiscal investment.

* Initiated an "Adopt a Ramp" program with local sportsmen's clubs to further reduce maintenance costs.

* Utilized SOBA guidelines for the development of disabled user accessible boater access facilities to construct or retrofit more than 50 access sites. ☐



Wear Your Support

Buy a T-Shirt!

Support Virginia's Nongame and Endangered Species program by wearing one of our brand-new beautiful t-shirts! Only $12 each (plus $2.50 postage and handling), they're available in medium, large, and extra large only. Send your order in with a check for $14.50 (for each t-shirt ordered) made out to the Treasurer of Virginia to: T-Shirt Offer, VDGIF, Attn: Toni Harrison, P.O. Box 11104, Richmond, VA 23230-1104.

Photo TipS

By Lynda Richardson

Just Point and Shoot

The microphone crackled a warning. "Lynda, since you are the professional here, would you be so kind as to photograph the winners?" Applause rose and fell as all eyes turned to me. I could feel a strange heat rising up in my face. "Aaaa...gosh....I would love to...I didn't know you wanted any pictures...aaa...I didn't bring a camera." The room grew suddenly still.

"Didn't bring a camera?," came an amazed voice from the crowd. "I thought professionals were always *prepared*!" joked another.

"Well, I didn't think you guys would be wild enough wildlife for my cameras," I said in a weak attempt at humor. A few chuckles came and went but then the crowd began to murmur.

It was about that time some smarty pants pulled a tiny black box from his jacket pocket and handed it to me. "Here, use this! It's loaded with 200 speed film and ready to go. Just press this button here." I stared at the little camera in my hands. It was so light. Something without knobbies or rings to adjust surely couldn't work very well.

The photo contest winners lined up, and waving the winners a bit closer together, I "cheesed" them and pressed elbows to my chest and held my breath for extra steadiness.

I pushed the button. Nothing happened. "Hey, this thing isn't working!" Chuckles went around the room and that sneaky guy came up to me again and showed me how to take a picture. "I can't shoot with this thing," I whined. "If it doesn't have a lot of knobs and stuff, I don't know what's going on. How can you take a picture with this thing?" The learned one looked into my eyes. "You just point and shoot."

That event happened to me several years ago and I'll always remember it. Since then, I've thought of owning a simple "point and shoot" camera but could never bring myself to buy something that "did everything" for me.

In the ensuing years, however, I began to notice many famous photographers using point and shoots. When not working, and just snapping a few fun party shots, I observed Pulitzer Prize winners, National Geographic magazine shooters and well-known wildlife photographers picking up these little boxes from their shirt pockets and clicking away at the likes of Bob Hope, Roger Tory Petersen and gulls begging for food at the beach. And they all swear by them...Well, for nonassignment fun snapshots, that is.

I define a point and shoot camera as a 35mm camera that doesn't have removable lenses, is small and has a built-in flash. These cameras are range finders, meaning that you don't have through-the-lens viewing, but line up your subject through a window above and to the side of the lens.

Today, point and shoots have gotten frighteningly good. It seems nearly every one of them is now auto-focus and has an "adjustable" zoom lens ranging from 35 to 105mm. The cameras are also getting so small and light that one will comfortably fit in a front shirt pocket and you'd never know it was there.

Even built-in flashes have become more sophisticated. A typical problem of the past has been the infamous "red eye," caused by a reflection of the flash into a subject's eyes, creating a reddish glow. Now, some point and shoots on the market have a special pre-flash feature which seems to minimize this problem.

With all this new technology, how do you choose the point and shoot that's right for you? First, you must ask yourself, what do you want to do with this camera? If you want to shoot scenics or group shots, make sure you choose a camera with wide angle capability such as a 28 or 35mm lens. If you want to shoot indoors, make sure your camera has a built-in flash. The red-eye reduction feature helps when photographing people indoors and out. If portraits are your thing, I would make sure your camera had a 70 to 105mm capability.

Once you have made a list of your needs, visit the local camera store. Names such as Canon, Nikon, Olympus and Pentax should stand out as serious contenders. Anticipate a price range of $150 to $300 for a good pocket camera, although there are cheaper ones available ($40 to $100). It just depends on your picture quality requirements and how often you are going to use the camera.

If you want to get started in photography, but are intimidated by fancy, expensive equipment with lots of whistles and bells, why not look into the newest pocket cameras on the market? They can't replace the excellent quality and dependability of adjustable 35mm SLR cameras, but at least *you* won't be without a camera and you'll *always* be prepared for any photographic occasion. □

Recipes

By Joan Cone

A Unique Striped Bass Meal

One of the most sought-after fish in fresh or saltwater is the striped bass. They are stocked in lakes statewide and caught with rod and reel. Farm-raised striped bass, generally, are available in better food markets.

Since stripers are relatively large fish, often exceeding 10 pounds, they can be sliced into steaks and then cut into chunks which hold together well in main dishes or chowder. Your steaks can be skinned easily, the bones removed and then cut into pieces for use in the recipe below.

MENU

Deviled Ham Spread
Grilled Fish On Herbed Lemon Pasta
Parmesan Peas
Orange-Walnut Salad
Baked Strawberries

Deviled Ham Spread

1 can (4¼ ounces) deviled ham
1 package (8 ounces) cream cheese, room temperature
½ teaspoon curry powder

Combine all ingredients in a processor and blend until smooth. Chill and serve with assorted crackers. Makes 12 ounces.

*Grilled Fish on Herbed Lemon Pasta

8 ounces linguine or angel hair
¼ cup margarine or butter
2 tablespoons all-purpose flour
2 cups half and half or milk
1 tablespoon chopped chives
¼ cup lemon juice
¼ teaspoon grated lemon peel
1 tablespoon chopped fresh dill
1 tablespoon chopped parsley
½ teaspoon salt
⅛ teaspoon pepper
1 to 1½ pounds striped bass steaks, cut into 4 or 5 pieces

Cook pasta according to package directions; drain. Rinse with hot water; drain and set aside in a large warm bowl.

While pasta cooks, heat margarine or butter in a large skillet. Stir in flour, then half and half or milk and chives. Heat and stir until thickened and bubbly. Add lemon juice, lemon peel, dill, parsley, salt and pepper.

Grill fish in a broiler or on a barbecue. Arrange drained cooked pasta on each dinner plate. Top with a serving of grilled fish, then lemon-herb sauce. Makes 4 or 5 servings.

Parmesan Peas
(For microwave)

2 packages (10 ounces each) frozen peas
1 can (3 ounces) sliced mushrooms, drained
½ cup grated Parmesan cheese
⅓ cup butter or margarine, melted
¼ cup chopped onion (optional)
¼ cup snipped parsley
½ teaspoon salt
⅛ teaspoon pepper

Place regular size (10" x 16") Oven Cooking Bag in a 12 x 8 x 2-inch baking dish. Combine all ingredients in bag; turn bag gently to mix. Close bag with rubber band or string. Make 6 half-inch slits in top of bag. Microwave on HIGH power setting 15 to 17 minutes, breaking peas apart halfway through the cooking time. Turn dish periodically. Makes 4 to 6 servings.

Orange Walnut Salad

1 large navel orange, peeled, sectioned and seeded
1 small head Bibb lettuce, torn into bite-size pieces
½ pound fresh spinach, torn into bite-size pieces
¼ cup coarsely chopped walnuts
2 teaspoons butter or margarine, melted

Place first 3 ingredients in a large bowl. Sauté walnuts in butter until lightly browned; add to lettuce mixture. Toss with Sweet-Sour Dressing. Makes 3 to 4 servings.

Sweet-Sour Dressing

½ teaspoon paprika
½ teaspoon celery seeds
½ teaspoon dry mustard
½ teaspoon salt
¼ cup sugar
½ cup vegetable oil
¼ cup white vinegar

Combine all ingredients in a jar. Cover tightly and shake vigorously. Chill several hours. Shake again before serving over salad. Makes about 1 cup.

Baked Strawberries

1 pint strawberries, washed, hulled and halved
½ cup sugar
1 tablespoon lemon juice
1 tablespoon water
4 ½-inch thick slices of day-old white bread, crusts removed
2 tablespoons light brown sugar
1 teaspoon grated lemon rind
3 tablespoons butter or margarine

Preheat oven to 350 degrees. Place strawberries in a buttered 1-quart baking dish. Sprinkle berries with sugar, lemon juice and water. Cut bread into ½-inch cubes. Cover strawberries with cubes and sprinkle with brown sugar and lemon rind. Dot the dish with butter. Bake in a 350 degree oven until bread cubes are lightly browned. Serve the dish warm with whipped cream or whipped topping. Makes 4 servings.

* *Recipe from* Pasta in Minutes, *by Mabel Hoffman, published by Fisher Books, 1993.*

Safety

by Col. William Antozzi, Boating Safety Officer

No Fish For Dinner

The majority of Virginia boaters use their vessels for fishing, and many anglers keep, cook and eat their catches. But the waters which are the habitat for fish are not always as pure as might be desired.

Most fish caught in Virginia waters are uncontaminated, but some contain potentially dangerous levels of harmful chemicals. The Virginia Health Department is responsible for warning the public that certain waters contain fish which should not be consumed. Anglers are advised that there is no prohibition on fishing in those waters, however, and recreational fun can still be pursued, but the catches should not be eaten.

Most boaters remember the headlines declaring the James River below Hopewell contaminated by the chemical "kepone." Because chemically contaminated fish swim upstream as well as downstream, fish in the James River and its tributaries, from the fall line at Richmond to the Hampton-Norfolk Bridge Tunnel are still considered to be dangerous to use as food.

The Virginia Health Department warns that fish in the Jackson River downstream from the dam above the confluence with Dunlap Creek, south to the confluence of the James River and on the James at that confluence downstream to the Snowden Dam may contain dioxin. Anglers catching fish in those waters should refrain from consuming their catches. Particularly dangerous are bottom-feeding species.

Fish in the Blackwater River, five miles from Sandy Landing to the Nottoway River confluence at the North Carolina border may also contain dioxin. Bottom-feeding species are most likely to contain hazardous levels.

Another equally chemically contaminated body of water containing high dioxin levels is the Nottoway River from the General Vaughan Bridge (U.S. Route 258) to the North Carolina border.

No fish should be consumed if it is caught in the South Fork of the Shenandoah River from State Route 619 bridge, near Front Royal, downstream from that point. The same rule applies to the North Fork downstream from Passage Creek. Also prohibited are fish caught in the Shenandoah from the confluence of the North and South Forks to the West Virginia State line. The dangerous chemicals in those waters are PCBs.

Mercury has been found in the South River from the footbridge at the E.I. Dupont de Nemours Company in Waynesboro to Port Republic. That same chemical is in the South Fork of the Shenandoah River from Port Republic to the Page-Warren County line. Anglers should eat no more than ½ pound per week of fish from those waters. Small children and pregnant women should completely abstain.

Taking fish out of the North Fork of the Holston River from Saltville to the Virginia-Tennessee State line for human consumption is prohibited. Mercury is also the problem in those waters.

Anglers interested in obtaining additional information on hazardous chemicals in Virginia waters may contact the Virginia Department of Health at 804/786-3551. □

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Some waters in Virginia have been posted with health advisories warning the public not to consume the fish taken from them. Unfortunately, we are paying for past offenses against the environment—and the aquatic life of our streams is paying even more dearly.

Preserving in bronze what we're losing in the wild

An Endangered Species Series by Turner Sculpture

Continuing to capture the essence of Virginia's endangered species in bronze, David Turner of Turner Sculpture has created the third in his Endangered Species Series to raise funds for Virginia's Nongame and Endangered Species Program.

Turning to the wind-swept beaches and mudflats of his native Eastern Shore, David has chosen to capture the spirit of the delicate, yet spritely piping plover in bronze. Perfectly camouflaged among the speckled beaches, the piping plover can disappear from view in an instant, blending into the landscape with the help of its sand-colored body, black collar, and a black nick of a crown between the eyes.

This federally endangered shorebird is teetering on the brink of extinction, and every year we hold our breath hoping to see signs of recovery. One-quarter of the East Coast piping plover population nests on the beaches of Virginia's barrier islands, struggling to increase its numbers amid the hardships of habitat loss, nest destruction, and predators hungry for a meal of eggs or tiny young.

Like the Northern flying squirrel (featured above) and the sold-out Bewick's wren sculpture, a limited edition of 200 piping plovers will be cast and sold solely to benefit Virginia's Nongame and Endangered Species Program, the program responsible for the management and protection of all the Commonwealth's rare and endangered wildlife. The money raised from the sale of the three sculptures will provide the program with over 1/10th of its present operating budget.

Each sculpture has a purchase price of $325. Turner Sculpture will receive $175 to cover their production costs, while the remaining $150 will be sent to the Virginia Department of Game and Inland Fisheries as your contribution to Virginia's Nongame and Endangered Species Fund. A tax advisor should be consulted regarding the personal tax deductibility of this contribution. Each piece sold will include a certificate of origin and a letter confirming your contribution to the future of Virginia's wildlife.

You may order either the piping plover or the Northern flying squirrel by sending a $325 check for each signed and numbered sculpture to: Turner Sculpture, Box 128, Onley, VA 23418. For credit card orders, call: 804/787-2818.

Note: if you have already purchased a Bewick's wren or Northern flying squirrel and would like the same limited edition number in the piping plover, please send in your order as soon as possible.

Photo of piping plover approximates actual size.

Northern flying squirrel (height: 7 inches) by David Turner.

TURNER SCULPTURE

Nongame and Endangered WILDLIFE · PROGRAM
VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES